



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

0000001

140-147

JUN 09 1999

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: ACTION MEMORANDUM - Determination of Threat to Public Health, Welfare, or the Environment at the Sauget Area 1 Dead Creek Superfund Site Sauget and Cahokia, St. Clair County, Illinois (Site ID # 054V)

FROM: Kevin Turner, On-Scene Coordinator *R. Karl*
Emergency Response Branch - Section 2 *for*

TO: William E. Muno, Director
Superfund Division

THRU: Richard C. Karl, Chief *R. Karl*
Emergency Response Branch

I. PURPOSE

The purpose of this memorandum is to document the determination of an imminent and substantial threat to public health and the environment due to the current culverts along Dead Creek. Some of the culverts are either under sized or blocked which causes the potential of hazardous constituents present in the sediments and surface water along approximately 3.5 miles of Dead Creek to flood into residential yards.

The actions proposed herein will mitigate the potential threats to public health, welfare, and the environment posed by the presence of uncontrolled hazardous wastes substances located in Dead Creek sediments and surface waters at the site. Proposed removal actions include but are not limited to preparing a Time Critical Removal Action Plan to unblock or remove and replace culverts in a manner that minimizes the disturbance of sediments in Dead Creek and prevents the movement of sediments from one segment to the next. Also, the new culverts shall be designed to minimize the amount of sediment migration from one creek segment to the next, and shall be in accordance with the Department of Transportation (DOT) requirements for dead and live weight. Excavated sediments and water pumped from the creek will be, as necessary treated and disposed of in accordance with the Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation and Liability Act (RCRA/CERCLA) and the Toxic Substances Control Act (TSCA) requirements. It is anticipated that these actions will be

performed by the Potentially Responsible Party (PRP) pursuant to an Unilateral Administrative Order (UAO). This project will require an estimated 60 on-site working days to complete.

The Sauget Area 1 Site is not on the National Priorities List (NPL), however, it has been proposed for inclusion on the NPL.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD980792006

A. Physical Location and Description

Dead Creek of the Sauget Area 1 Site stretches from the Alton & Southern Railroad at its northern end and flows south through Sauget and Cahokia for approximately 3.5 miles (Latitude: 38°33'15" and Longitude: 90°11'15") before emptying into the Old Prairie du Pont Creek, which flows approximately 2,000 feet west into a branch of the Mississippi River known as the Cahokia Chute. Dead Creek has been subdivided into six separate segments labeled Creek Segment A through F. Creek Segment CS-A is the northernmost segment of the creek and is approximately 1,800 feet long and 100 feet wide running from the Alton & southern Railroad to Queeny Avenue. Creek segment CS-B extends from approximately 1,800 feet from Queeny Avenue south to Judith Lane. Land use is primarily commercial and residential. Sites G, L, and M of the Sauget Area 1 border this creek segment. Creek segment CS-C extends approximately 1,300 feet from Judith Lane south to Cahokia Street. Land use is primarily residential along both sides of the creek. Creek segment CS-D extends approximately 1,100 feet from Cahokia Street to Jerome Lane. Land use is primarily residential on both sides of the creek. Creek segment CS-E extends approximately 4,300 feet from Jerome Lane to the intersection of Illinois Route 3 and 157. Land use is predominately commercial with some residential. Creek segment CS-F is approximately 6,500 feet long and extends from Route 157 to the Old Prairie du Pont Creek. CS-F is the widest segment of Dead Creek and a large wetland area extends several hundred feet out from both sides of the creek.

According to the Region 5 Superfund Environmental Justice Analysis, there are 4 Block Groups covering the distance of Dead Creek. Three of the Block Groups do not meet the demographic conditions for an environmental justice (EJ) priority. However, residents in census tract 502601, Block Group 2 do meet Region 5 EJ criteria. This block group has a total population of 1829. Of the 1829, 82% are classified as white and 18% are classified as minority. Approximately 60% of the families residing in this block group have an income of less than 2 times the established state low-income level.

B. Site Background

Dead Creek has historically been a repository for local area wastes. In 1928 an easement agreement between local property owners and representatives of local business, municipal and property interests was executed to "improve the drainage in that District (Dead Creek) by improving Dead Creek so as to make it suitable for disposal of wastewater, industrial waste,

seepage and storm water.” Thereafter, Dead Creek systematically received direct and indirect discharges from local businesses and from the Village of Sauget for many years to come.

Creek segment CS-A is the northernmost segment of the creek, and originally consisted of two holding ponds which were periodically dredged. For several years, CS-A and available downstream creek segments (e.g., ones that were not blocked off) received direct wastewater discharges from industrial sources and served as a surcharge basin for the village of Sauget (formerly Village of Monsanto) municipal sewer collection system. When the system became backed up or overflowed, untreated wastes from industrial users of the sewer system were discharged directly into CS-A. On several occasions, CS-A was dredged and contaminated sediments were disposed of onto adjacent property (Site I of Sauget Area 1 Site). In 1968, the Queeny Avenue culvert, which allowed creek water to pass from CS-A to CS-B, was permanently blocked by the Village of Sauget. Remediation work was conducted by Cerro Copper in CS-A in 1990. Approximately 27,500 tons of contaminated sediments were removed to RCRA and TSCA permitted facilities. CS-A is now filled and covered with crushed gravel and is therefore not part of this work. Land use surrounding CS-A is industrial.

Sediment and surface water samples collected by U.S. Environmental Protection Agency (EPA) and Illinois EPA have detected a wide variety of organic and inorganic contaminants in each of the remaining creek segments. The table below compares concentrations of a few compounds present in Dead Creek with the U.S. EPA’s Ecotox Thresholds Criteria as depicted in Office of Solid Waste and Emergency Response (OSWER) Directive 9345.0-12FSI Dated January 1996.

Compound	Max Concentration	Media	Segment	Ecotox Threshold
Chlorobenzene	5.2 ppm	Sediment	B	0.82 ppm
1,4 dichlorobenzene	220. ppm	Sediment	B	0.35 ppm
1,2 dichlorobenzene	17. ppm	Sediment	B	0.34 ppm
Pyrene	13 ppm	Sediment	B	0.66 ppm
PCBs	10,000 ppm	Sediment	B	0.023 ppm
4,4-DDT	0.24 ppb	SW	B	0.013 ppb
Benzo (a) pyrene	4.5 ppm	Sediment	C	0.43pm
Arsenic	6,000 ppm	Sediment	B	8.2ppm
Lead	24,000 ppm	Sediment	B	47.ppm

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at Sauget Area 1, Dead Creek present an imminent and substantial threat to the public health, or welfare, and the environment and meet the criteria for a removal action provided for in the National Contingency Plan (NCP), Section 300.415, Paragraph (b)(2). 40 C.F.R. § 300.415(b)(2)(I), (iii), (iv), and (v), respectively, specifically allows removal actions for:

- A. Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations or the food chain.

This condition exists at the Site due to high levels of organic and inorganic contaminants found in the sediments and surface water of Dead Creek which could potentially be released into residential areas via flood waters backing up behind blocked or inadequately sized culverts. Some of the contaminants in Dead Creek are known carcinogens or suspected carcinogens. Contaminants potentially migrating from Dead Creek via overflow and flood waters to nearby residential areas are accessible to humans, specifically the residents and children who live and play on these potentially affected properties. These individuals could potentially be exposed to the contamination by direct skin contact with the sediments and surface water released from Dead Creek.

- B. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

This factor is present at the Site due to the fact high levels of organic and inorganic contaminants are located within the sediments and surface water of Dead Creek. Blocked and/or inadequately sized culverts on Dead Creek often cause flood waters to back up behind these culverts and then overflow into nearby residential areas. This area of St. Clair County is particularly prone to flooding due to a very shallow groundwater table. Storm water backing up behind culverts exacerbates the flooding conditions in this area.

- C. Availability of other appropriate federal or state response mechanisms to respond to the release.

The Illinois EPA currently does not have the available funds to respond to this time-critical situation. In addition, the U.S. EPA is the lead agency for enforcement actions related to the Sauget sites.

IV. ENDANGERMENT DETERMINATION

Given the site conditions, the nature of the suspected hazardous substances on site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS

The On-Scene Coordinator (OSC) proposes that the following actions be taken to mitigate threats posed by the presence of hazardous substances at the Sauget Area 1 Site 1 (Dead Creek):

A. Prepare a Time Critical Removal Action Plan and implement the Removal Action to assess and mitigate the threats posed by the migration of contaminants via overflow and flood waters from the Site, as described in sections II and III above. This Time Critical Removal Action Work Plan ("Work Plan") shall describe the plan for replacing current culverts on Dead Creek with pre-cast concrete culverts sized to convey water from one creek segment to the next without build up under flood conditions. Removal and replacement of the culverts shall be done in a manner that minimizes the disturbance of sediments in Dead Creek and prevents the movement of sediment from one segment to the next. Also, the new culverts shall be designed to operate so as to minimize the amount of sediment migration from one creek segment to the next. The work plan shall also include a hydraulic study of the Dead Creek watershed to determine 100-year flood elevations and flow design requirements for the culvert replacement project. The work plan shall also provide for the replacement of all roadways disturbed by the culvert replacement project in accordance with DOT requirements for dead and live-bearing weight. This Work Plan shall also include a Health and Safety Plan.

B. If the culvert replacement project involves the excavation of contaminated sediments or the pumping and/or disposal of creek water, these media must be properly disposed of at a RCRA and TSCA approved disposal facility in accordance with U.S. EPA off-site disposal rule found at 40 C.F.R. § 300.440, 58 Federal Register 49215 (September 22, 1993).

Applicable or Relevant and Appropriate Requirements

Any State or Federal applicable, relevant, and appropriate requirements (ARARs) identified in a timely manner will be complied with to the extent practicable.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Continued risk to public health and the environment will result if no action or delayed action ensues.

VII. OUTSTANDING POLICY ISSUES

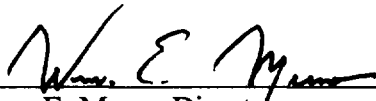
There are no outstanding policy issues associated with this site.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this site is contained in the Enforcement Confidential Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action for Dead Creek in Sauget Area 1 developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action. You may indicate your decision by signing below.

APPROVE:  DATE: 6/9/97
William E. Muno, Director
Superfund Division

DISAPPROVE: _____ DATE: _____
William E. Muno, Director
Superfund Division

Attachment 1 - Region 5 Superfund EJ Analysis

cc: K. Mould, U.S. EPA, 5202-G
M. Chezick, U.S. Department of the Interior, w/o Enf. Addendum
T. Skinner, Illinois EPA, w/o Enf. Addendum
C. Morin, Illinois EPA, w/o Enf. Addendum
J. Morgan, Illinois Dept. of Attorney General, w/o Enf. Addendum
S. Davis, Illinois DNR w/o Enf. Addendum

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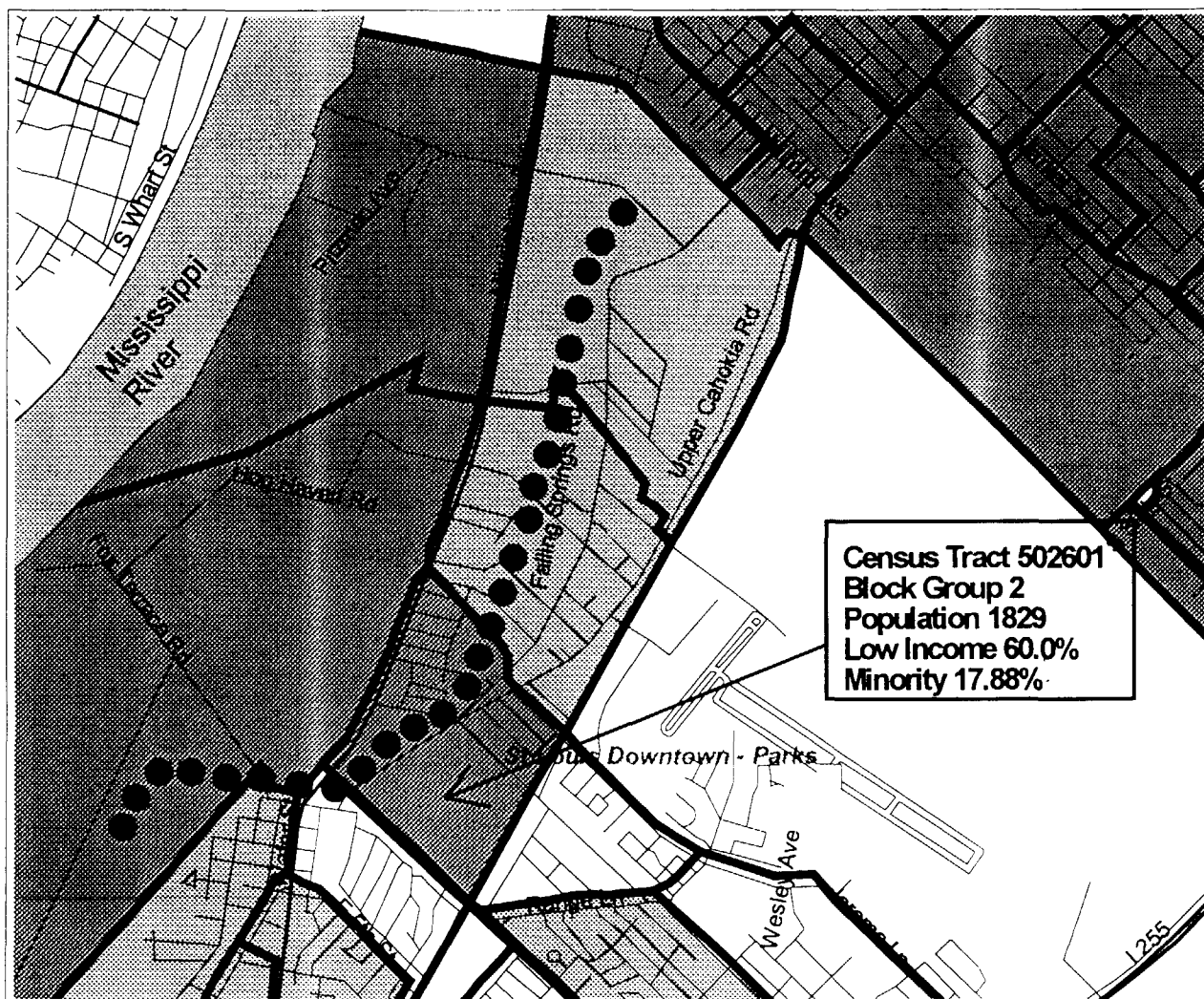
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NOT RELEVANT TO THE SELECTION OF REMOVAL ACTION

Region 5 Superfund EJ Analysis

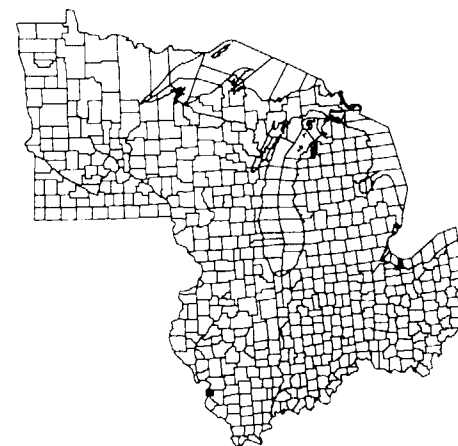
Sauget Area 1, Dead Creek Site, Cahokia, IL



EJ Identification

- Low Income and Minority Less than State Average
- Low Income or Minority at or Greater than State Average
- Low Income or Minority 2 Times or Greater than State Average
[meets Region 5 EJ Case criteria]
- Site Location
- Block Group Boundary

Region 5 EJ Case Criteria for Illinois
 Minority: 50% or greater
 Low Income: 54% or greater



0 0.2 0.4 0.6 0.8 1 Miles



U.S. EPA Region 5
 St. Louis, MO
 63102

Date of Map: 5/25/99

Source of Map: 1990 Census Database

ENFORCEMENT ADDENDUM

SAUGET AREA 1

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NOT RELEVANT TO THE SELECTION OF REMOVAL ACTION

ATTACHMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
ADMINISTRATIVE RECORD
FOR
SAUGET AREA 1
SAUGET AND COMPANY LANDFILL, SITE G
CAHOKIA AND SAUGET, IL

SEPTEMBER 23, 1994

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	05/00/88	Ecology & Environment, Inc.	IEPA	Expanded Site Investigation Report, Dead Creek Proj. Sites, Final Report (Vol. 1 of 2)	478
2	05/00/88	Ecology & Environment, Inc.	IEPA	Expanded Site Investigation Report, Dead Creek Proj. Sites, Final Report (Vol. 2 of 2)	557
3	08/19/94	Ecology & Environment, Inc.	U.S. EPA	Removal Action Report, Sauget Area 1: Site G (w/Site Photographs, Analytical Data Package, and Cost Projection)	91
4	09/27/94	Borries, S., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum	12

UPDATE #1
MARCH 10, 1995

1	05/00/86	U.S. EPA	U.S. EPA	Field Manual for Grid Sampling of PCB Spill Sites to Verify Clean-up (EPA 560/5-86-017)	57
2	06/15/94	Enseco-Air Toxics Laboratory	Ecology and Environment, Inc.	Chemical & Physical Analyses for Air Samples: Summary Report and Raw Data Package	182
3	02/08/95	Orloff, K., ATSDR	Borries, S., U.S. EPA	ATSDR Record of Activity	2
4	03/00/95	Geraghty & Miller, Inc.	U.S. EPA	Alternatives Evaluation for Site G, Sauget Area 1, Sauget, IL	19

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
			<u>UPDATE #2</u> MAY 27, 1999		
1	00/00/00	Turner, K., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health, Welfare, or the Environment at the Sauget Area 1 Dead Creek Superfund Site (PENDING)	